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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,539	01/19/2001	Hyung-joon Kwon	8021-28 (SS-14984-US)	1424

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EXAMINER	
TORRES, JOSEPH D	

ART UNIT	PAPER NUMBER
2133	9

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/765,539	KWON, HYUNG-JOON	
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *17-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse in Paper No. 8 of Group I, claims 1-16, is acknowledged. The traversal is on the ground(s) that "simultaneous examination would not present an undue burden". This is not found persuasive because invention Group II, Adaptive Means for Adjusting between the Number of Errors and Erasures during Decoding of an Error Correction Coded Data, has separate utility such as in adaptive error correction whereby the number of erasures versus errors is variable; hence requires a separate search for limitations pertaining to adaptive error correction whereby the number of erasures versus errors is variable whereas Group I, Memory Access for Error Correction Coded Data Stored on Disks with Particular Steps for Producing Demodulated Data, requires particular steps for memory access.
The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 17-20 drawn to an invention nonelected with traverse in Paper No. 8. **A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.**

Drawings

2. In view of Amendment A of Paper No. 6, all objections to the drawings are withdrawn.

Claim Objections

3. In view of Amendment A of Paper No. 6, all objections to claims 2, 9-11 and 14-16 are withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 12-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Nowhere does the Applicant teach "correcting erasures and then actual errors in the code words using the erasure flags". In particular, the Applicant describes Figure 6 on page 7 of the Applicant's disclosure as "a method for channel decoding and error correcting". Hence according to the Applicant's own teachings error-erasure correction (see steps 640 and 655 in Figure 6 of the Applicant's disclosure) are performed as an integral part of the error correction.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "error-erasure correction" in claims 1-11 is used by the claim to include "the decoding step of quickly determining if there are any erasures so that they may be more efficiently corrected prior to performing any attempted correction of actual errors for which error locations are unknown" (Note: on page 17 of the Applicant's Amendment A, the Applicant explicitly recites, "Applicants have coined the phrase 'error-erasure correction' to include the decoding step of quickly determining if there are any erasures so that they may be more efficiently corrected prior to performing any attempted correction of actual errors for which error locations are unknown"), while the accepted meaning is "is a an error correction means using information about known erased locations to correct errors" (Note: Gupta, US 5715262 A, teaches error-erasure correction as published in the literature in col. 1, lines 40-60 of Gupta as it applies to Reed-Solomon codes). The term 'error-erasure correction' as used by the Applicant is indefinite because the specification does not clearly redefine the term. In particular, nowhere in the specification does the applicant explicitly state, "error-erasure correction"

includes "the decoding step of quickly determining if there are any erasures so that they may be more efficiently corrected prior to performing any attempted correction of actual errors for which error locations are unknown". In addition, the Examiner would like to point out that the definition supplied by the Applicant on page 17 of the Amendment A is vague and indefinite since the terms "quickly" and "efficiently corrected" are relative terms of which one of ordinary skill in the art at the time the invention was made would not be apprised since the specification does not provide a standard for determining the requisite degree.

6. Claims 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites, "correcting erasures and then actual errors in the code words using the erasure flags". The Examiner asserts that erasures are actual errors so that correcting an erasure is a step for correcting an actual error; hence the previously quoted phrase is indefinite. In addition, it is unclear whether the erasure flag is used for correcting the erasures, the actual errors or both.
Claims 13-16 depend from claim 12; hence inherit the deficiencies of claim 12.

Response to Arguments

7. Applicant's arguments with respect to previously examined claims 1, 3-8, 10, 11 and 13-16 and amended claims 2, 9 and 12 filed 19 December 2003 have been fully considered but they are not persuasive.

The Applicant contends, "Nowhere does Howe teach or suggest the correction of erasures prior to correction of actual errors, and particularly not correction of erasures with the first or same decoder to be subsequently used for correction of actual errors". The Examiner would like to point out that nowhere does the Applicant claim in the claim language of claim 1, "correction of erasures **prior to correction of actual errors**".

The Applicant contends, "using a 4-bit "flag" to indicate an 8-bit erasure is substantially less efficient than using a 1 -bit flag to mark the symbol location of an 8-bit information data symbol erasure".

The Examiner disagrees and asserts that in col. 8, lines 60-67 of Howe teach that the embodiment for flag information using a 4-bit flag includes data reliability information as well as erasure information, hence in the particular embodiment presented in the Application the actual flag information would be smaller. In addition, col. 8, lines 45-50 in Howe teach the use of an arbitrary flags for marking erasures and either 1-bit or 4-bit flags containing other information are obvious embodiments of the teachings in Howe.

The Applicant contends, "Howe neither teaches nor suggests correcting erasures prior to actual errors".

The Examiner asserts that erasures are actual errors so that correcting an erasure is a step for correcting an actual error; hence the previously quoted phrase is indefinite.

The Examiner disagrees with the applicant and maintains all rejections of previously examined claims 1, 3-8, 10, 11 and 13-16 and amended claims 2, 9 and 12. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that previously examined claims 1, 3-8, 10, 11 and 13-16 and amended claims 2, 9 and 12 are not patentably distinct or non-obvious over the prior art of record in view of the references, Howe, Dennis George et al. (US 6112324 A) and Rhines, Don S. et al. (US 5392299 A) as applied in the last office action, Paper No. 5. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Howe, Dennis George et al. (US 6112324 A, hereafter referred to as Howe).

35 U.S.C. 102(e) rejection to claim 1.

See Paper No. 5 for detailed action of prior rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 4, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howe, Dennis George et al. (US 6112324 A, hereafter referred to as Howe).

See Paper No. 5 for detailed action of prior rejections.

10. Claim 9-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howe, Dennis George et al. (US 6112324 A, hereafter referred to as Howe) in view of Rhines, Don S. et al. (US 5392299 A, hereafter referred to as Rhines).

See Paper No. 5 for detailed action of prior rejections.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-746-7240.

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